

Work Order ID 128412

Friday, January 16, 2015 2:36:33 PM

Page 1

Item ID: D350-591-213

Revision ID:

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Start Qty: 4.00

4

Cust Item ID:

Required Date: 1/16/15

Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan: MLSDate: 1501-19

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3078

A

DSI 9472

A

DSI9712

A

DAS
27
9-89

100

Document Control

0.00

DAS
28
9-89***100***

DC

DOCUMENT CONTROL

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and type labels as per PPP D350-591-213 CHG004

APR 27 2015

110

Large Fab

0.00

110

Large Fab

Memo

0.00

Large Fab

1-Cut D2622-120 extrusion to 59.75" long as per Dwg D3078
2-Drill extrusion as per Dwg D3078 using Jig DT8680 for rivets.
3-Deburr

4X : DH 15/4/21

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Quality Control

4 APR 21 2015 24 9-89

4 APR 21 2015 DAS
24
9-89

4x **DAS 43** **APR 23 2015**
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Unapproved									

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Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Friday, January 16, 2015 2:36:34 PM

Item ID: D350-591-213

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Stop ***NS2***

Start Date: 1/06/15 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 1/16/15 **Req'd Qty:** 4.00 ***/***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Handling/Pre									
Material									
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Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 128412***128412***

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Friday, January 16, 2015 2:36:34 PM

Item ID: D350-591-213

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 1/16/15 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	Large Fab	0.00							
200									
Large Fab	Memo	0.00							
Large Fab	1- Rivet Leg Assembly as per Dwg D3078. 2-Bevel Aft end for welding 3-Inspect for foreign object as per QSI 024 4-Weld Aft End Plate as per QSI 004 & Dwg D3078 A/R Aluminum Rod <u>6131562</u> 5-Grind End Plate flush								
210	QC10- Inspect visual per QSI004- ground welds	0.00							
210									
QC	Memo	0.00							
Quality Control									
220	QC5- Inspect part completeness to step on W/O	0.00							
220									
QC	Memo	0.00							
Quality Control									

4x CC

APR 23 2015

DAS
43
9-89

4x

APR 23 2015

DAS
38
9-89

4

APR 23 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other _____ _____ _____ _____
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Work Order ID 128412

Friday, January 16, 2015 2:36:34 PM

128412

Page 5

Item ID: D350-591-213
 Revision ID:
 Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible
 Start Date: 1/06/15 Start Qty: 4.00
 Required Date: 1/16/15 Req'd Qty: 4.00
 Reference:

Accept

N900040100

Setup Start ***NS1***
 Stop ***NS2***

Cust Item ID:
 Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	Chemical Conversion Coat per QSI005 4.1	0.00							
230	HandFinish	0.00							
Hand Finishing	Memo								
240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
240	Powdercoat	0.00							
Powder Coating	Memo								
	START TIME: 9:20								
	OVEN TEMPERATURE: 300°								
	FINISH TIME: 9:50								
250	Wing Walk as per dwg QSI005 4.4 Batch 11132039	0.00							
250	HandFinish	0.00							
Hand Finishing	Memo								

Handwritten: 15-1-24. 9:20 34 9:50

Handwritten: 15-4-24. 9:20 34 9:50

Handwritten: 15/04/26

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 128412***128412***

Page 6

Friday, January 16, 2015 2:36:34 PM

Item ID: D350-591-213

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 1/16/15 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260 *260* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				4			DAS 38 9-89 APR 27 2015
270 *270* Packaging Packaging	Pick Kit Memo	0.00 0.00				4			DAS 27 9-89 APR 27 2015 DAS 28 9-89
280 *280* QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00							DAS 26 9-89 APR 27 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

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Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
290	Packaging	0.00							
290									DAS
Packaging	Memo	0.00							06
Packaging	Identify and pack for shipping as per PPP D350-591-213								3-89
	Location: <u>039</u>								
	PPP Rev: _____								
300	QC21- Final Inspection - Work Order Release	0.00							
300									
QC	Memo	0.00							
Quality Control									

4 _____ APR 27 2015

MCJ 15-04-27

MF
15-4-27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, January 16, 2015 2:36:32 PM

Page 1

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP Rev:B05.10.14Modified step 10KJ/EC
 IPP Rev:C 06-06-19 Added D2732-030 AS PER DSI9294 JLMIPP
 REV:D 14.12.17 ADD DSI9712-011 DD VERF:JLM
 IPP Rev:C 06-06-27 Revised as per DSI9340 JLM IPP Rev:D
 10.03.17 incorporate seq 180 to 200 remove qc5 DD verified
 by:JLM IPP Rev:E
 10.11.15 update qty on AN4-11A DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3338-1

Manufactured

No

Each

48.0000

**

4

DAS
27
9-89

DAS
28
9-89

APR 27 2015

D3338-1

Mounting Lug

Location

Loc Qty

Loc Code

ST527

48

127949

48

D2622-120C

Manufactured

No

110

Each

111.0000

0.5

**

2

DL 15/4/21

D2622-120C

Step Extrusion

Location

Loc Qty

Loc Code

HALL

11

109575

11

WA003

100

125381

100

D3067-1

Manufactured

No

130

Each

129.0000

1

**

4

APR 21 2015

DAS
24
9-89

D3067-1

End Plate

Location

Loc Qty

Loc Code

WA003

129

117776

1

119290

128

3129522 → 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Page 2

Friday, January 16, 2015 2:36:32 PM

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

D3063-1 Manufactured No 130 Each 70.0000 1 4

D3063-1

Support

**

APR 21 2015

DAS
24
9-89

Location	Loc Qty	Loc Code
WA003	70	
113631	9	
114976	41	
119780	20	

MS20600-AD4W4 Purchased No 180 Each 976.0000 16 64

MS20600-AD4W4

Rivets

**

CC 15-4-24

Location	Loc Qty	Loc Code
ST309	719	B131624
M128899	719	
WA003	257	
M128899	257	

D3066-1 Manufactured No 180 Each 33.0000 2 8

D3066-1

Spacer

**

CC 15-4-24

Location	Loc Qty	Loc Code
WA003	33	B129078
106302	1	
125436	32	

D3065-041 Manufactured No 180 Each 13.0000 1 4

D3065-041

Step Leg Assembly

**

CC 15-4-24

Location	Loc Qty	Loc Code
WA003	13	B129079
122273	13	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, January 16, 2015 2:36:32 PM

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

D3067-1 Manufactured No 200 Each 129.0000 1 4

D3067-1

End Plate

**

CC 15-4-23

Location

Loc Qty

Loc Code

WA003

129

B129522 →

(4x)

117776

1

119290

128

AN3-35A

Purchased No

270

Each

57.0000

2

8

DAS
27
9-89

DAS
28
9-89

AN3-35A

Bolt

**

Location

Loc Qty

Loc Code

FG

10

122800

10

ST348

47

m131886

8

m130466

47

D2856-400

Manufactured No

270

f

75.4400

0.6

2.4

**

D2856-400

Abrasion Strip 4" Wide (Per Foot)

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST418

75.44

128948

24

119887

75.44

AN4-11A

Purchased No

270

Each

337.0000

2

8

DAS
27
9-89

APR 27 2015

AN4-11A

BOLT

**

Location

Loc Qty

Loc Code

FG

20

120731

20

ST325A

317

8

M128362

300

M128769

17

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, January 16, 2015 2:36:33 PM

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

NAS1149D0463J

Purchased

No

270

Each

5,663.000

12

48

NAS1149D0463J
WASHER

**

DAS

27

DAS

28

DAS

28

9-89

Location

Loc Qty

Loc Code

CA	397	
M129682	397	
GA	408	
M129390	408	
ST260a	1153	
M129390	1153	
ST269	3705	
M129390	12	
M130799	3693	

M130035

48

D2230-1

Manufactured

No

270

Each

402.0000

2

8

D2230-1
Mounting Lug

**

DAS

27

DAS

28

APR 27 2015

Location

Loc Qty

Loc Code

FG	4	
84136	4	
ST521	172	
115306	80	
116380	60	
116381	32	
ST546A	226	
112595	1	
113437	112	
116381	96	
116382	17	

8

DAS

28

9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, January 16, 2015 2:36:33 PM

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

MS21042L3

Purchased

No

270

Each

2,045.000

2

8

DAS

27

9-89

MS21042L3

Nut

Location

Loc Qty

Loc Code

FP001

447

M130922

447

ST305

1595

M130799

31

~~M131264~~

1564

ST307

3

123900

3

AN4-13A

Purchased

No

270

Each

145.0000

4

16

AN4-13A

Bolt

Location

Loc Qty

Loc Code

FG

20

122808

20

GA

43

m130325

43

ST325A

82

m130716

82

D2732

Manufactured

No

270

f

821.0000

1

4.210526

D2732

Rubber Extrusion

Location

Loc Qty

Loc Code

ST412

471

117118

471

ST639

350

117118

350

DAS

27

9-89

APR 27 2015

DAS

28

9-89

4.210526

DQA: _____ Date: _____



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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
☐ Bending	☐ Bend	☐ Folio/Program
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear
☐ Crushing	☐ Countersink	☐ Misaligned/off center
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set
☐ Turning Sequence	☐ Finish	☐ Out of Calibration
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence
		☐ Outside Dimensions
		☐ Over/Under tolerance
		☐ Part Incorrect
		☐ Part Lost/Missing
		☐ Part Moved
		☐ Positioned Wrong
		☐ Power Loss/Surge
		☐ Pressure/Forced
		☐ Set-up
		☐ Temperature/Cure
		☐ Weld
		☐ Wrong Stock Pulled
		☐ Other

Picklist Print

Page 6

Friday, January 16, 2015 2:36:33 PM

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

D2230-3

Manufactured No

270

Each

184.0000

2

8

D2230-3

Mounting Lug

**

DAS

27

9-89

APR 27 2015

DAS

28

9-89

Location

Loc Qty

Loc Code

FG

8

109344

4

89045

4

ST521

16

114921

4

116378

12

ST525A

160

123324

160

B128799

8

MS21042L4

Purchased

No

270

Each

3,435.000

6

24

MS21042L4

Locknut

**

DAS

27

9-89

APR 27 2015

DAS

28

9-89

Location

Loc Qty

Loc Code

FP001

42

m124231

42

GA

704

m127813

704

ST260a

2000

m130799

2000

ST305

689

426

426

m128300

8

m130922

255

24

Friday, January 16, 2015 2:36:33 PM

Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

Picklist Print

Page 7

Friday, January 16, 2015 2:36:33 PM

Work Order ID: 128412

128412

Parent Item: D350-591-213

D350-591-213

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Aerazur Float Compatible

Start Date: 1/06/15

Required Date: 1/16/15

Start Qty: 4.00

Required Qty: 4.00

NAS1149D0363J

Purchased

No

270

Each

1,794.000

16

NAS1149D0363.J

Washer

**

DAS
27

9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

CA	673	
m130799	673	
FP001	154	
m126319	154	
GA	778	
m128429	778	
ST269	189	
122378	137	
m126319	52	

m131618

16

DAS
26
9-89

AN4-16A

Purchased

No

270

Each

157.0000

16

AN4-16A

Bolt

**

DAS
27

9-89
APR 27 2015

Location

Loc Qty

Loc Code

FG	5	
121541	5	
ST343	152	
M131139	152	

m132035

16

DAS
26
9-89

DAS
28
9-89

Friday, January 16, 2015 2:36:33 PM

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Page 7

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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RELEASED
02.09.20

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3078	REV. A SHEET 1 OF 2
DATE 02.09.11		TITLE STEP ASSEMBLY, HI SHORT	SCALE NTS
A	02.09.11	NEW ISSUE	

Part No.	Description	QTY -041	QTY -042
D3078-041	Step Assembly, High Short (LH)	X	
D3078-042	Step Assembly, High Short (RH)		X
D2622-60	STEP EXTRUSION	1	1
D3063-1	SUPPORT	1	1
D3065-041	LEG ASSEMBLY	1	1
D3066-1	SPACER	2	2
D3067-1	END PLATE	2	2
MS20600AD4W4	RIVET	16	16

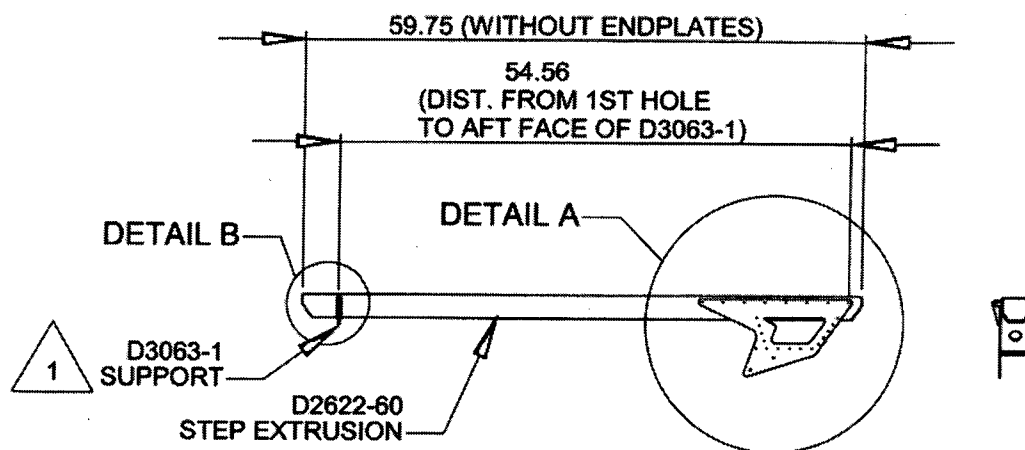
- 1) -041 SHOWN, FOR -042 INSTALL D3063-1 SUPPORT OPPOSITE SIDE
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

1501-10
M128412MLS



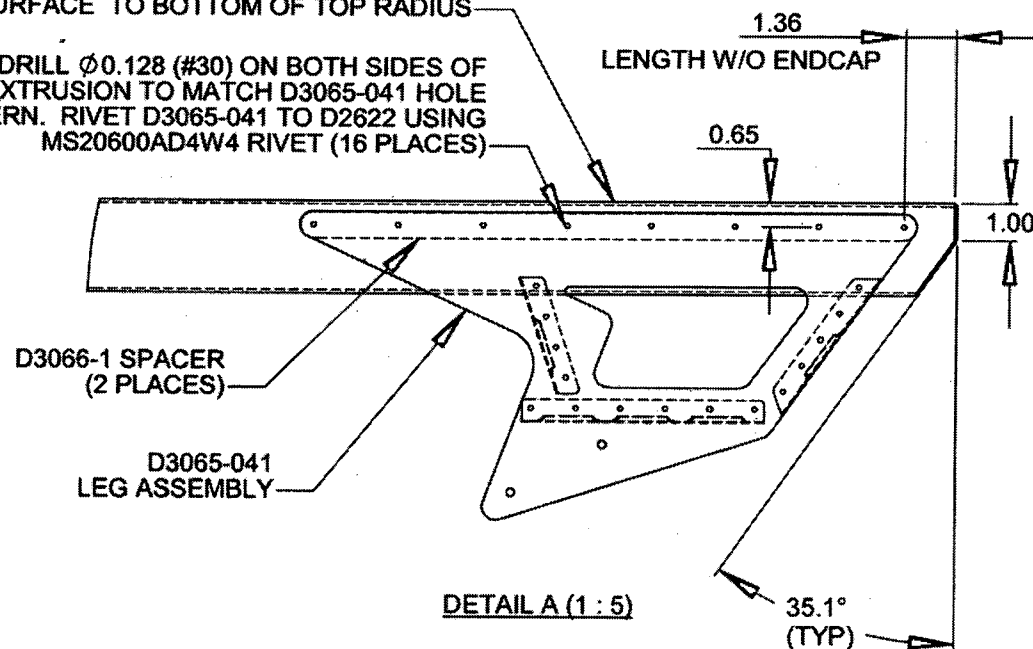
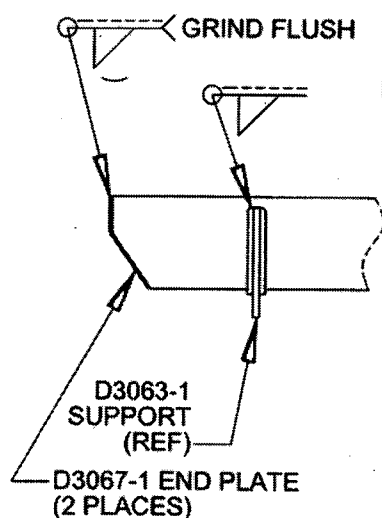
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CHECKED	✓	APPROVED	✓	DRAWING NO. D3078
DATE	02.09.11	TITLE	STEP ASSEMBLY, HI SHORT	REV. A SHEET 2 OF 2
		SCALE	1:20	

RELEASED
02.09.2011



APPLY BLACK ANTI-SKID ON TOP
SURFACE TO BOTTOM OF TOP RADIUS

DRILL $\phi 0.128$ (#30) ON BOTH SIDES OF
D2622 EXTRUSION TO MATCH D3065-041 HOLE
PATTERN. RIVET D3065-041 TO D2622 USING
MS20600AD4W4 RIVET (16 PLACES)



DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER
REF CANADIAN STC: SH92-6
REF FAA STC: SH967NE

For D350-591-213/-214/-215/-216 steps, customers have the option of installing D2732-030 cushion under the clamps to accommodate varying crosstube diameters and to improve fit, as indicted in Installation Instructions D350-591. This Service Instruction adds longer AN4-16A bolts to the parts list to allow installation of these cushions. See Figure 1 on sheet 2 of this service instruction for reference. Installation of the D2856-400-720 Abrasion Strips per Installation Instructions D350-591 is not required when the cushions are installed.

For D350-591-213/-214/-215/-216 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -213	Qty -214	Qty -215	Qty -216	Part Number	Description
X				D350-591-213	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X			D350-591-214	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X		D350-591-215	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X	D350-591-216	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
4	4	4	4	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: 
D. SHEPHERD (DE # 02)

DATE: 09.08.05
CERT. NO.: SH92-6
ISSUE NO.: 11

A	NEW ISSUE	RF	09.08.05
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	NDA	DSI 9472	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		BOLT ADDITION	NTS
DATE	09.08.05	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

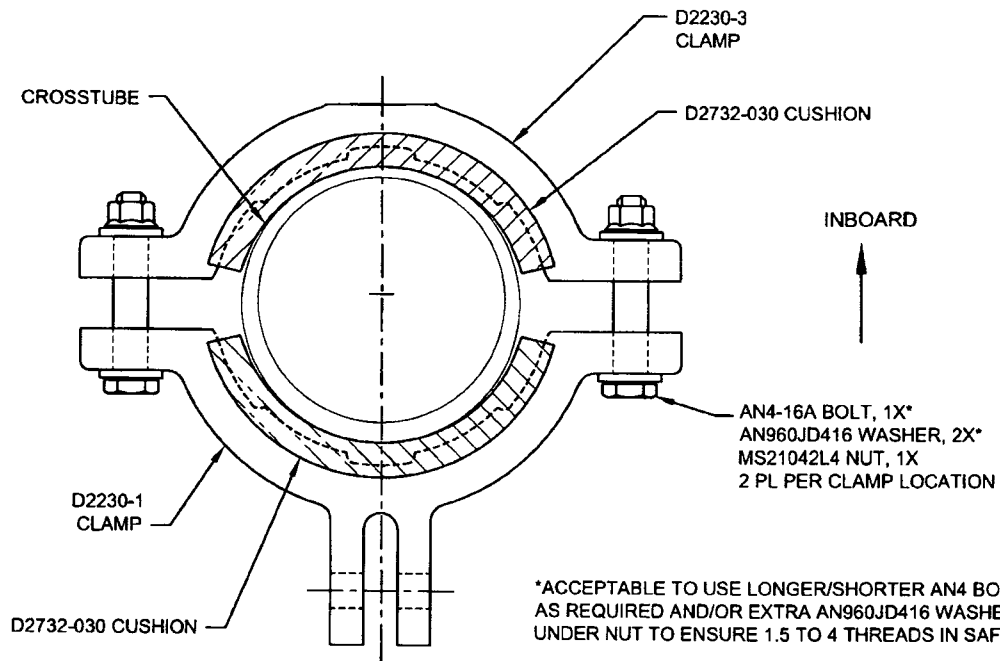


FIGURE 1: CLAMP DETAIL
OPTIONAL CLAMP CONFIGURATION

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AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 09.08.05
CERT. NO.: SH92-6
ISSUE NO.: 11

DESIGN	40	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	40	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9472	SHEET 2 OF 2
APPROVED	WD	TITLE	SCALE
DE APPR.	TH	BOLT ADDITION	NTS
DATE	09.08.05	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D350-591 REV. 3
REF TCCA STC: SH92-6
REF FAA STC: SH967NE

1.0 Purpose

It has come to DART's attention that it may be difficult to fasten the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Installations to the forward crosstube due to variations between crosstubes. For this reason, DART is adding the D3338-1 Mounting Lug to the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Kits at CHG 004 and later.

For D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Kits at CHG 003 and earlier, DSI 9712-011 Mounting Lug Kit can be procured from DART. The kit contains all parts to upgrade a single step kit.

2.0 Installation

- 2.1 It is acceptable to install the D3338-1 Mounting Lug in lieu of the D2230-1 Mounting Lug as required to reduce the gap between step and the forward crosstube in accordance with the figures of this service instruction.
- 2.2 The height to set up the D350-591-133 Maintenance Step has been revised from 7.0in to 6.0in $\pm$ 1.0in to provide more flexibility. See sheet 2 of this service instruction.
- 2.3 In all other respects, install the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Steps in accordance with Section 3.1 of Installation Instructions D350-591 or Section 32.1 of Instructions for Continued Airworthiness ICA-D350-591.

3.0 Parts List Change

The following additional part is provided with D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Steps at CHG 004:

Qty -133	Qty -213	Qty -214	Part Number	Description
X			D350-591-133	Heli-Access-Step™, Aft Maintenance Step
	X		D350-591-213	Heli-Access-Step™, Short Step - High Skid, LH
		X	D350-591-214	Heli-Access-Step™, Short Step - High Skid, RH
1	1	1	D3338-1	MOUNTING LUG (ADD)

4.0 DSI 9712-011 Mounting Lug Kit Parts List

For existing D350-591-133 Aft Maintenance Steps and D350-591-213/-214 Heli-Access-Steps at CHG 003 or earlier, one DSI 9712-011 kit upgrades one step installation:

Qty -011	Part Number	Description
X	DSI 9712-011	Mounting Lug Kit
1	D3338-1	MOUNTING LUG

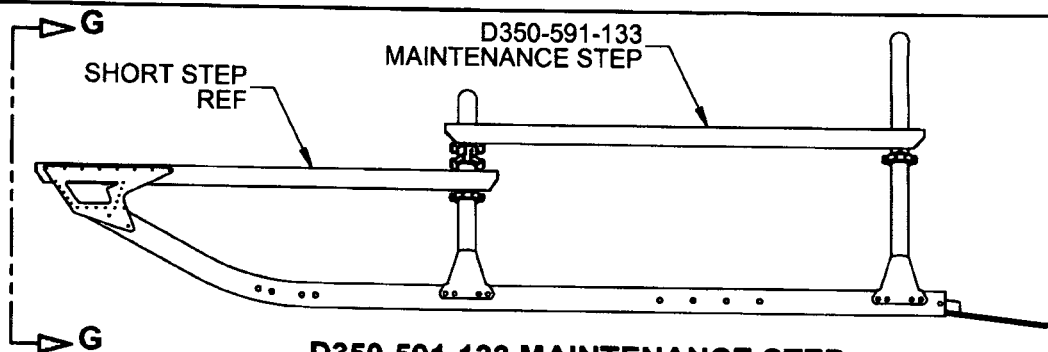
5.0 Weight and Balance

There is a negligible weight change associated with this modification.

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DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

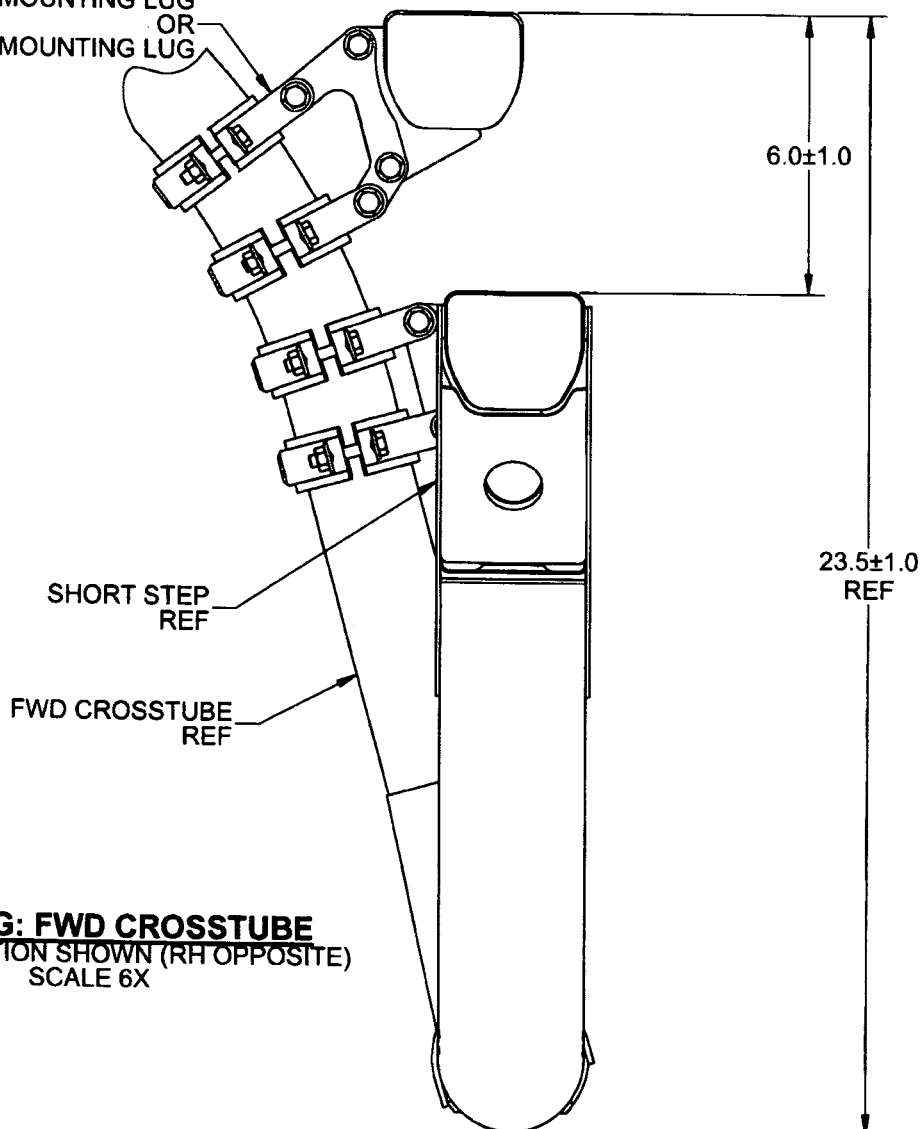
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BY: D. Shepherd
D. SHEPHERD (DE # 02)
DATE: 14.12.04
CERT. NO.: SH92-6
ISSUE NO.: 11

A	NEW ISSUE	MB	14.10.22
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>JS</u>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<u>JS</u>		
CHECKED	<u>GP</u>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9712	SHEET 1 OF 3
APPROVED	<u>140</u>	TITLE	SCALE
DE APPR.	<u>140</u>	INSTALLATION OPTION	NTS
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D350-591-133 MAINTENANCE STEP
LH INSTALLATION SHOWN (RH OPPOSITE)

D2230-1 MOUNTING LUG
OR
D3338-1 MOUNTING LUG



VIEW G-G: FWD CROSSTUBE
LH INSTALLATION SHOWN (RH OPPOSITE)
SCALE 6X

REF. FIGURE 11 / 32-11 of D350-591 / ICA-D350-591
Maintenance Step

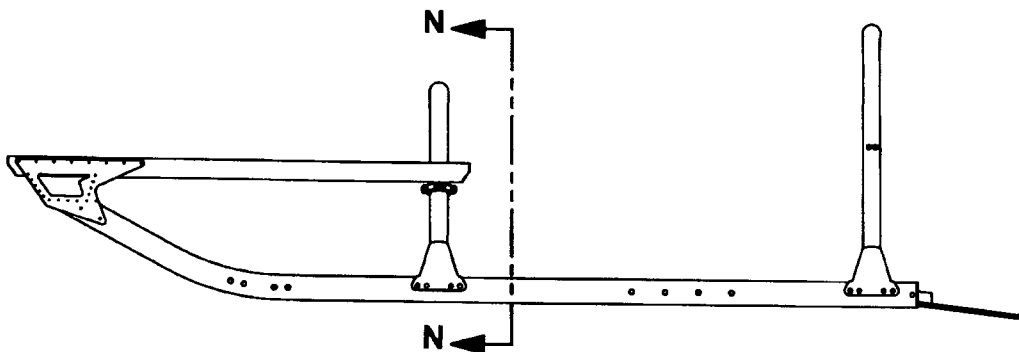
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DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *[Signature]*
D. SHEPHERD (DE # 02)

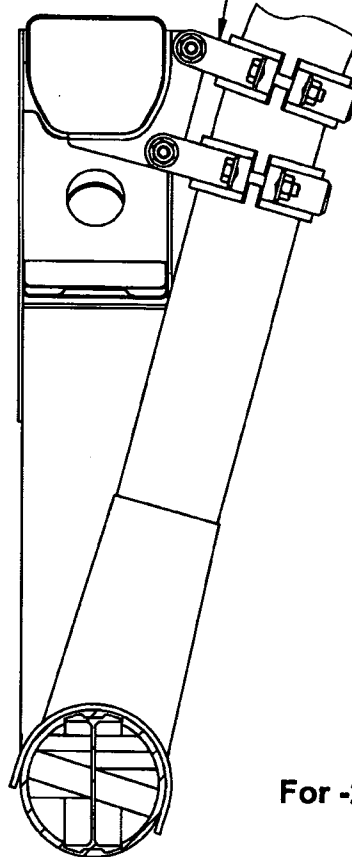
DATE: 14.12.04
CERT. NO.: SH92-6
ISSUE NO.: 11

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CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	DSI 9712	SHEET 2 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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REF. FIGURE 13 / 32-13 of D350-591 / ICA-D350-591
D350-591-213 Heli-Access-Step, Short Step - High Skid, LH (shown)
D350-591-214 Heli-Access-Step, Short Step - High Skid, RH (opposite)

D2230-1 MOUNTING LUG
OR
D3338-1 MOUNTING LUG



SECTION N-N
For -213/-214 Steps only
SCALE 6X

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 14.12.04
CERT. NO.: SH92-6
ISSUE NO.: 11

REF. FIGURE 19 / 32-19 of D350-591 / ICA-D350-591
Crosstube Attachment

DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD	
DRAWN	<i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO. DSI 9712	REV. A
MFG. APPR.	<i>[Signature]</i>		SHEET 3 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	INSTALLATION OPTION	NTS
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REF

APR 27 2015

DART AEROSPACE LTD.

DAS
28
9-88D350-591
Page 23 of 23

Qty -211	Qty -212	Qty -213	Qty -214	Qty -215	Qty -216	Qty -311	Qty -312	Part Number	Description
X								D350-591-211	Heli-Access-Step™ , Long Step – High Skid, LH
	X							D350-591-212	Heli-Access-Step™ , Long Step – High Skid, RH
		X						D350-591-213	Heli-Access-Step™ , Short Step – High Skid, LH
			X					D350-591-214	Heli-Access-Step™ , Short Step – High Skid, RH
				X				D350-591-215	Heli-Access-Step™ , Short Step – Low Skid, LH
					X			D350-591-216	Heli-Access-Step™ , Short Step – Low Skid, RH
						X		D350-591-311	Heli-Access-Step™ , Long Step – High Skid, LH
							X	D350-591-312	Heli-Access-Step™ , Long Step – High Skid, RH
1								D3070-041	STEP ASSEMBLY (HIGH-LONG, LH)
	1							D3070-042	STEP ASSEMBLY (HIGH-LONG, RH)
		1						D3078-041	STEP ASSEMBLY (HIGH-SHORT, LH)
			1					D3078-042	STEP ASSEMBLY (HIGH-SHORT, RH)
				1				D3168-041	STEP ASSEMBLY (LOW-SHORT, LH)
					1			D3168-042	STEP ASSEMBLY (LOW-SHORT, RH)
						1		D3272-041	STEP ASSEMBLY (HIGH-LONG, LH)
							1	D3272-042	STEP ASSEMBLY (HIGH-LONG, RH)
4	4							D2182B035	RUBBER CUSHION
		2	2	2	2			D2230-1	MOUNTING LUG
		2	2	2	2	4	4	D2230-3	MOUNTING LUG
8	8							D2274	RADIUS BLOCK
						2	2	D2618	BUSHING
4	4	4	4	4	4			D2732-030	CUSHION
2	2	1	1	1	1	2	2	D2856-400-720	ABRASION STRIP
2	2							D3064-1	CLAMP
1	1							D3079-041	SUPPORT ASSEMBLY
4	4							D3080-1	CLAMP
						2	2	D3235-1	MOUNTING LUG
						1	1	D3278-041	SUPPORT ASSEMBLY
2	2	2	2	2	2	2	2	AN3-35A	BOLT
10	10	2	2	2	2			AN4-11A	BOLT
		4	4	4	4	8	8	AN4-13A	BOLT
						2	2	AN5-36A	BOLT
4	4	4	4	4	4	4	4	AN960JD10	WASHER
20	20	12	12	12	12	16	16	AN960JD416	WASHER
						4	4	AN960JD516	WASHER
2	2	2	2	2	2	2	2	MS21042L3	NUT
10	10	6	6	6	6	8	8	MS21042L4	NUT
						2	2	MS21042L5	NUT
						1	1	*DSI 9410-011	STEP MODIFICATION KIT

*DSI 9410-011 Step Modification Kits are provided with all D350-591-311 and D350-591-312 Steps. This kit is provided as an option for the installer and is therefore **NOT REQUIRED** to complete the installation of the D350-591-311 or D350-591-312 Steps. Refer to Figure 21 for installation of the DSI 9410-011 Kit.

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Revision: **G**
Date: 08.10.06

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER
REF CANADIAN STC: SH92-6
REF FAA STC: SH967NE

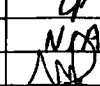
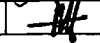
For D350-591-213/-214/-215/-216 steps, customers have the option of installing D2732-030 cushion under the clamps to accommodate varying crosstube diameters and to improve fit, as indicated in Installation Instructions D350-591. This Service Instruction adds longer AN4-16A bolts to the parts list to allow installation of these cushions. See Figure 1 on sheet 2 of this service instruction for reference. Installation of the D2856-400-720 Abrasion Strips per Installation Instructions D350-591 is not required when the cushions are installed.

For D350-591-213/-214/-215/-216 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -213	Qty -214	Qty -215	Qty -216	Part Number	Description
X				D350-591-213	Heli-Access-Step ™, Short Step – High Skid, LH
	X			D350-591-214	Heli-Access-Step ™, Short Step – High Skid, RH
		X		D350-591-215	Heli-Access-Step ™, Short Step – Low Skid, LH
			X	D350-591-216	Heli-Access-Step ™, Short Step – Low Skid, RH
4	4	4	4	AN4-16A	BOLT

CANADA DEPARTMENT OF TRANSPORT AIRCRAFT CERTIFICATION BRANCH DAO # 01-O-01	
APPROVED 	
BY: D. SHEPHERD (DE # 02)	
DATE:	09.08.05
CERT. NO.:	SH92-6
ISSUE NO.:	11

A	NEW ISSUE	RF	09.08.05
REV.	DESCRIPTION	BY	DATE
DESIGN	92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	UP	DRAWING NO.	REV. A
MFG. APPR.	NDA	DSI 9472	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		BOLT ADDITION	NTS
DATE	09.08.05	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

REF

DAS
28
9-89

APR 27 2015

DART SERVICE INSTRUCTION**TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D350-591 REV. 3**

REF TCCA STC: SH92-6

REF FAA STC: SH967NE

1.0 Purpose

It has come to DART's attention that it may be difficult to fasten the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Installations to the forward crosstube due to variations between crosstubes. For this reason, DART is adding the D3338-1 Mounting Lug to the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Kits at CHG 004 and later.

For D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Kits at CHG 003 and earlier, DSI 9712-011 Mounting Lug Kit can be procured from DART. The kit contains all parts to upgrade a single step kit.

2.0 Installation

- 2.1 It is acceptable to install the D3338-1 Mounting Lug in lieu of the D2230-1 Mounting Lug as required to reduce the gap between step and the forward crosstube in accordance with the figures of this service instruction.
- 2.2 The height to set up the D350-591-133 Maintenance Step has been revised from 7.0in to 6.0in $\pm$ 1.0in to provide more flexibility. See sheet 2 of this service instruction.
- 2.3 In all other respects, install the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Steps in accordance with Section 3.1 of Installation Instructions D350-591 or Section 32.1 of Instructions for Continued Airworthiness ICA-D350-591.

3.0 Parts List Change

The following additional part is provided with D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Steps at CHG 004:

Qty -133	Qty -213	Qty -214	Part Number	Description
X			D350-591-133	Heli-Access-Step™, Aft Maintenance Step
	X		D350-591-213	Heli-Access-Step™, Short Step – High Skid, LH
		X	D350-591-214	Heli-Access-Step™, Short Step – High Skid, RH
1	1	1	D3338-1	MOUNTING LUG (ADD)

4.0 DSI 9712-011 Mounting Lug Kit Parts List

For existing D350-591-133 Aft Maintenance Steps and D350-591-213/-214 Heli-Access-Steps at CHG 003 or earlier, one DSI 9712-011 kit upgrades one step installation:

Qty -011	Part Number	Description
X	DSI 9712-011	Mounting Lug Kit
1	D3338-1	MOUNTING LUG

5.0 Weight and Balance

There is a negligible weight change associated with this modification.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: [Signature]
D. SHEPHERD (DE # 02)

DATE: 14.12.04
CERT. NO.: SH92-6
ISSUE NO.: 11

A	NEW ISSUE	MB	14.10.22
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>[Signature]</u>	DART AEROSPACE LTD	
DRAWN	<u>[Signature]</u>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<u>[Signature]</u>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9712	SHEET 1 OF 3
APPROVED	<u>[Signature]</u>	TITLE	SCALE
DE APPR.	<u>[Signature]</u>	INSTALLATION OPTION	NTS
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